

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 03/11938

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H03F1/32 H04L27/36 H04B1/04

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H03F H04L H04B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 373 902 B1 (HA JI-WON ET AL) 16 April 2002 (2002-04-16)	1-8, 12-15, 17-19
Y	the whole document	9,16
Y	US 5 903 823 A (MORIYAMA YUKIHIRO ET AL) 11 May 1999 (1999-05-11)	9,16
A	column 44, line 27 - column 45, line 27; figure 50	1-8, 12-15,17
X	EP 0 982 849 A (NIPPON ELECTRIC CO) 1 March 2000 (2000-03-01)	1-7, 12-14, 17-19
A	paragraphs '0036!, '0044! - '0057!; figure 1	8,9,15, 16
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

### \* Special categories of cited documents :

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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Date of the actual completion of the international search

6 July 2004

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 072 364 A (GHANNOUCHI FADHEL M ET AL) 6 June 2000 (2000-06-06)  the whole document	1-8, 12-15, 17-19
X	EP 1 107 449 A (NIPPON ELECTRIC CO) 13 June 2001 (2001-06-13)  paragraphs '0012! - '0022!; figure 7	1-7, 12-14, 17-19
X	EP 0 973 307 A (MATSUSHITA ELECTRIC IND CO LTD) 19 January 2000 (2000-01-19)  the whole document	1-7, 12-14, 17-19

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Information on patent family members

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